Summary for Corrections Administrators

Summer 1992

Contents

The ***Summary for Corrections Administrators*** is prepared by staff of LIS, Inc., for the U.S. Department of Justice, National Institute of Corrections. To submit questions or comments, please write to the NIC Information Center, 1860 Industrial Circle, Suite A, Longmont, Colorado, 80501, or call (303) 682-0213.

TOPICAL SURVEY: Tuberculosis in Prison Systems

There is growing concern about the problem of tuberculosis in prisons. The survey this period was designed to provide a national investigation of the extent of tuberculosis among prison inmates. Survey results also provide a look at prison systems' approaches to the problem.

The survey was sent to all fifty states, the District of Columbia, the U.S. Bureau of Prisons, Puerto Rico, and the Correctional Service of Canada. Responses were received from all but the following states: Alaska, Hawaii, Maine, Maryland, and Nevada.

Table I: Incidence and Prevalence

- **1991 Incidence,** Table I shows the number of newly-diagnosed cases of tuberculosis in prison systems during 1991. Columns one through three make possible a meaningful comparison among states by indicating the inmate population at the end of 1991 and the number of new cases per 10,000 inmate population.

- **Prevalence;** Table I also shows the current (as of February 1992) number of active cases of tuberculosis in prisons.

Table II: Tuberculosis and HIV+

Tuberculosis spreads especially easily among those with the AIDS virus. Table II shows the prevalence of tuberculosis among HIV-positive inmates. The respondent from New York, where 23 percent of HIV-positive inmates are PPD+, noted that 90 percent of inmates with active cases of tuberculosis am also HIV-positive. Column four indicates the number of multi-drug-resistant cases of tuberculosis that are present among both HIV-positive and HIV-negative inmates.

Table III: Testing

- **Annual Testing. The** Centers for Disease Control (CDC) recommend that all inmates and staff of correctional facilities be tested annually for tuberculosis. Thirty of the fifty responding agencies test inmates annually. Oregon tests on intake only, Pennsylvania tests annually only inmates forty years of age and older, and Oklahoma tests only those age fifty and older. Some institutions in Indiana and Louisiana test annually, while others do not.

- **Mantoux Skin Test. The usual** test for tuberculosis is a Mantoux skin test. A positive result indicates that the person being tested has been exposed to the bacterium that causes the disease.

  A person found PPD+ has been exposed to the tuberculosis bacterium, but may or may not have active bacteria in his/her system. States differ in their definitions of PPD+, which is based on the number of millimeters of induration (swelling) resulting from the Mantoux skin test For the general public, CDC recommends 10 mm induration as the definition of PPD+; for HIV-positive or immune suppressed individuals, or those exposed to active cases, the recommendation is 5 mm induration. Them is some disagreement over the appropriate definition for high-risk groups such as inmates; many experts now believe the definition should be 5 mm induration.

  Two-stage testing is much more accurate, as it differentiates those infected at some earlier time from those recently exposed. A significant difference in results on two tests given close together in time indicates a "booster" response rather than a new infection.

  Table III, column six, indicates the percentage of each agency's prison system that has tested positive

on a tuberculosis skin test. Note that some states appear to have reported percentages of newly found cases while others have apparently reported both those newly found positive and those with a previous infection.

- **Anergy Testing of HIV+ Inmates.** Anergy testing determines the ability of the immune system to react to antibodies. If there is no reaction to an anergy test, it suggests that the immune system of the inmate is seriously compromised. This means that the results of a tuberculosis test would be unclear. Six states routinely administer anergy testing of HIV-positive inmates in connection with testing for tuberculosis, and another four do so under certain conditions.

Table IV: Prevention

- **Isoniazid (INH) Prophylaxis.** INH prophylaxis helps prevent PPD+ patients from developing a full-blown case of tuberculosis. It is recommended for anyone PPD+ who is high risk Table IV indicates the number of inmates in each state on INH prophylaxis and the number of months of INH prophylaxis provided for HIV-positive and other inmates.

The method of passing medication is also indicated (column two); CDC recommends that high-risk individuals (including prison inmates) and those who am HIV-positive receive the medication dose by dose directly from nurses. The other common approach is to distribute the medication to inmates, who administer it to themselves.

- **Negative Air Pressure Rooms.** Table IV also provides information on which states use negative air pressure rooms for housing those with suspected or active cases of tuberculosis. Negative air pressure moms are used to keep tuberculosis bacilli from flowing out into corridors. The pressure of the rooms is kept lower than that in adjacent areas, so that air flows in, but not out. Negative air pressure rooms vent infected air to the outside. The survey did not clearly differentiate between negative air pressure rooms actually available in prisons and those available in the community.

- **NIOSH Particulate Masks.** NIOSH particulate masks are worn by health care providers to protect them from infection. As Table IV makes clear, staff in some states use them only when dealing with inmates being held in isolation, while others **use** them in a variety of contexts. A common use of NIOSH masks is when performing dental work on infected inmates.

Table L Incidence and Prevalence of Tuberculosis in Prisons

	Inmate population 12/31/91 (Source: BJS)	No. of newly diagnosed cases, 1991	New cases per 10,000	Number of Active Cases	
				M. tuberculosis *	Atypical tuberculosis
Alabama	16,760	5	3	3	0
Alaska (No response)					
Arizona	15,415	6	4	6	0
Arkansas	7,709	6	8	21	1
California	101,808	N/A	N/A	104	13
Colorado	8,347	2 [1]	2	2	0
Connecticut	10,977	N/A	N/A	1	0
Delaware	3,721	0	0	80	0
District of Columbia	10,251	N/A	N/A	* [2]	* [2]
Florida	46,533	79	17	22	5
Georgia	23,644	20	8	19	N/A
Hawaii (No response)					
Idaho	2,211	0	0	0	0
Illinois	29,115	9	3	2	0
Indiana	13,008	1	1	1	1
Iowa	4,145	0	0	0	0
Kansas	5,903	1	2	1	0
Kentucky	9,799	2	2	0	0
Louisiana	20,464	34	17	4	3
Maine (No response)					
Maryland (No response)					
Massachusetts	9,058	4	4	1	3
Michigan	36,423	9	2	15	N/A
Minnesota	3,472	1	3	0	0
Mississippi	9,070	9	10	1	1
Missouri	15,411	8	5	5	0
Montana	1,478	0	0	0	0
Nebraska	2,506	<1%	N/A	0	0
Nevada (No response)					
New Hampshire	1,533	0	0	0	0
New Jersey	23,483	35	15	3	0
New Mexico	3,119	0	0	0	0
New York	57,862	111	19	35	20
North Carolina	18,899	6	3	18	6
North Dakota	492	2%	N/A	0	0
Ohio	35,750	2	1	1	0
Oklahoma	13,376	N/A	N/A	N/A	N/A

* *Myobacterium tuberculosis* is the bacterium that causes most cases of TB.

[1] Colorado had only two active cases last year, but 29 inmates had a positive PPD in the three-month period from November 1991 to January 1992.

[2] The District of Columbia has a total of 675 cases of tuberculosis, not differentiated between M. tuberculosis and atypical strains.

Table I, continued

	Inmate population 12/31/91 (Source: BJS)	No. of newly diagnosed cases, 1991	New cases per 10,000	Number of Active Cases	
				M. tuberculosis *	Atypical tuberculosis
Oregon	6,760	5	7	28	0
Pennsylvania	23,388	18	8	4	1
Rhode Island	2,772	0	0	1	0
South Carolina	18,312	4	2	10	(Unknown)
South Dakota	1,374	0	0	0	0
Tennessee	11,502	3	3	2	0
Texas	51,677	85	16	62	9
Utah	2,624	2	8	2	0
Vermont	1,119	0	0	0	0
Virginia	18,755	8	4	8	0
Washington	9,156	3	3	2	0
West Virginia	1,502	0	0	0	12
Wisconsin	7,870	4	5	0	0
Wyoming	1,054	0	0	0	0
Bureau of Prisons	71,608	10	1	11	0
Puerto Rico	N/A	18	N/A	6	0
Canada	N/A	7	N/A	4	0

* *Myobacterium tuberculosis* is the bacterium that causes most cases of TB.

Table II. Tuberculosis and HIV

	No. of HIV+ inmates	No. of HIV+ inmates with tuberculosis	Agency provides HIV testing of PPD+ inmates	No. of multi-drug resistant cases
Alabama	183	1	✓	0
Alaska (No response)				
Arizona	95	0	✓	1 HIV+; 1 HIV-
Arkansas	68	0	✓	0
California	714	N/A	(Unknown)	4 HIV-
Colorado	53	0		0
Connecticut	574	25	✓	0
Delaware	75	N/A	✓	N/A
District of Columbia	564	27–35	✓	N/A
Florida	173	(Unknown)	✓	2 HIV+; 1 HIV-
Georgia	800	12	✓	1 HIV+
Hawaii (No response)				
Idaho	9	0	✓	0
Illinois	299	5	✓	0
Indiana	30	0	(Varies)	0
Iowa	19	0	✓	0
Kansas	13	0	✓	0
Kentucky	30	0		0
Louisiana	173	2	(Varies)	1 HIV+
Maine (No response)				
Maryland (No response)				
Massachusetts	340	N/A	✓	0
Michigan	265	3	✓	0
Minnesota	14	1	✓	1 HIV+
Mississippi	110	0	✓	0
Missouri	111	1	✓	3 HIV-
Montana	7	0	✓	0
Nebraska	10	1	✓	1 HIV+
Nevada (No response)				
New Hampshire	21	0	✓	0
New Jersey	755	23		1 HIV+
New Mexico	8	0	✓	N/A
New York	8,000	* [1]	✓	25% of active TB
North Carolina	318	9	✓	0
North Dakota	0	N/A		0
Ohio	142	0 active; 4 PPD+	✓	0
Oklahoma	64	0	✓	0
Oregon	40	1	(Voluntary)	2 HIV+
Pennsylvania	303	10	✓	2 HIV+; 2 HIV-
Rhode Island	86	0	✓	0
South Carolina	331	15	✓	0

[1] In New York, 23 percent of all DOC inmates are PPD+; 90 percent of active TB cases are HIV+.

Table II, continued

	No. of HIV+ inmates	No. of HIV+ inmates with tuberculosis	Agency provides HIV testing of PPD+ inmates	No. of multi-drug resistant cases
South Dakota	3	0	✓	0
Tennessee	28	(Unknown)		(Unknown)
Texas	646	25 [2]	✓	1 HIV+; 2 HIV- [3]
Utah	30	2	✓	0
Vermont	(Confidential)	(Unknown)	✓	0
Virginia	213	3	✓	1 HIV+
Washington	38	0	✓	0
West Virginia	5	0	✓	0
Wisconsin	38	0	✓	0
Wyoming	6	0	✓	0
Bureau of Prisons	631	2	✓	2 HIV+
Puerto Rico	601	19	✓	0

[2] In the Texas DOC, twenty-five HIV+ inmates either have TB or have been previously treated for it.

[3] One HIV+ inmate in Texas has TB which is resistant to rifampin and rifabotine; two HIV– inmates have multi-drug resistance, one to rifampin and streptomycin and the other to isoniazid, rifampin, ethambutol, ethionamide, and rifabotine.

Table III. Testing

	Anergy testing provided for HIV+ inmates	Annual TB skin testing			Percent inmates with positive skin test	How PPD+ is defined (induration)		
		Provided for inmates	Provided for employees	Mantoux method used		5 mm (all)	10mm (all)	5mm HIV+; 10mm all others
Alabama		✓		One step	>1%		✓	✓
Alaska (No response)								
Arizona	(Recently initiated)	✓	✓	Two step	10.3%			✓
Arkansas		✓	✓	Two step	1.4%			✓
California		✓	(Pending approval)	One step	approx. 20%			✓[1]
Colorado		✓	✓	One step	1.5%			✓
Connecticut	✓[2]	✓	✓	One step	2.8%			✓
Delaware					13%	✓		
District of Columbia					N/A			
Florida		✓		One step	0.6%			✓[3]
Georgia		✓	✓	One step	N/A			✓
Hawaii (No response)								
Idaho				One step	>1%		✓	
Illinois	(Mantoux + at 2mm)	✓		One step	25%			✓[4]
Indiana	(Varies)	(Varies by institution)		Both	10.4%	(Varies by institution)		
Iowa	✓	✓	✓	Both[5]	3.8%			✓[6]
Kansas		✓		One step	2%		✓	
Kentucky			(Medical staff only)	One step	10–20%[7]	✓		
Louisiana		(Varies by institution)		One step	17.5%	Varies by institution		
Maine (No response)								
Maryland (No response)								
Massachusetts	✓	✓	(Optional)	One step	18%	✓ (inmates)	✓ (staff)	
Michigan	✓	✓		One step	4%			✓
Minnesota	✓	✓	✓	Two step for inmates only	5–10%	✓		
Mississippi		✓	✓	one step	24.7%		✓	

[1] California defines PPD+ as 5mm induration for HIV+ individuals, those in recent contact with infected persons, and those with stable abnormal CxR.

[2] Connecticut provides anergy testing only when ordered by an Infectious Disease Specialist.

[3] Florida defines PPD+ as 5mm induration or abnormal chest X-ray.

[4] The Illinois DOC considers a result of 2mm induration as positive for HIV-positive individuals.

[5] Iowa uses the two-step Mantoux test with HIV+ or immunosuppressed inmates.

[6] Iowa defines PPD+ as 5mm induration for HIV+ persons, those in recent contact, those with a current X-ray showing TB, or those with immune suppression.

[7] Results of Kentucky's testing indicate 10 percent positive at the Correctional Institute for Women and 20 percent at the state reformatory.

Table III, continued

	Anergy testing provided for HIV+ inmates	Annual TB skin testing			Percent inmates with positive skin test	How PPD+ is defined (induration)		
		Provided for inmates	Provided for employees	Mantoux method used		5 mm (all)	10mm (all)	5mm HIV+; 10mm all others
Missouri	✓	* [8]	* [8]	Both	20%			✓
Montana		✓	(Some)	Both	7.5%			✓
Nebraska					<1%			✓
Nevada (No response)								
New Hampshire	✓				2% or less	✓		
New Jersey		✓	✓	Two step	N/A	✓ [10]	✓	
New Mexico		✓	biennially [11]	Both [12]	8.7%			✓
New York		✓	✓	One step	23%	✓		
North Carolina		✓	✓	One step	13.9%			✓
North Dakota					5%	✓		
Ohio					7.8% (1991)			✓
Oklahoma		✓ [13]		One step	(N/A)		✓	
Oregon		(On intake only)	✓	Two step	2%			✓
Pennsylvania		age 40+		One step	6.5%			✓
Rhode Island		✓	✓	One step	11–14.4% [14]			✓
South Carolina		✓	✓	One step	8%	✓ [15]		
South Dakota		✓		N/A	3%			✓
Tennessee		✓	✓	One step	3%			✓
Texas		✓		Both [16]	17%			✓
Utah		✓	✓	N/A	15%	✓		
Vermont					<1%	(Unknown)		
Virginia	✓	✓		One step	5.4%			✓
Washington					22%			✓
West Virginia		✓	✓	One step	12–15%		✓	
Wisconsin	✓	✓		Two step	3% (1991)			✓
Wyoming					<1%		✓	
Bureau of Prisons	✓			One step	5%			✓
Puerto Rico		✓	✓	One step	8%			✓
Canada		(On intake only)		One step	(N/A)		N/A	

[8] Missouri tests only inmates 50 years old or older and those known to be HIV-seropositive; the state is in the process of developing a procedure for testing of medical staff.

[9] In Missouri, induration of 0 mm and controls of 0 mm may be considered significant for HIV+ or immunocompromised persons, or those recently in contact with active TB.

[10] In New Jersey, induration of 5 mm is considered significant for those with recent contact.

[11] New Mexico now tests employees biennially but will change to annual testing later this year.

[12] New Mexico uses the two-step Mantoux test for initial testing of inmates and employees. Subsequent tests are one-step.

[13] The Rhode Island figure is for males; 4.2 to 5.7 percent of women inmates have tested positive.

[14] Oklahoma tests annually only those 50 years of age or older. Others are tested every two years.

[15] South Carolina consideres significant induration of 5mm induration for HIV+ persons, those in close contact with TB-infected persons, or those with radiographic evidence of old TB.

[16] Texas uses the one-step test for those under age 45 and the two-step test for those ages 45 and over.

Table IV. Prevention/INH Prophylaxis

	No. inmates on INH prophylaxis	Medication delivery		Length of INH prophylaxis (months)		Use negative air pressure rooms	Use NIOSH particulate masks (A = Any time needed; D = Dental; I = Isolation; O = Other)
		Method (SA = Self-administered; DBD = Dose-by-dose)	Frequency	HIV- inmates	HIV+ inmates		
Alabama	41	SA	Daily	6	6		A
Alaska (No response)							
Arizona	N/A	Both	Both	6	12[1]		A
Arkansas	62	DBD	Twice weekly	6	12[2]	✓	A–D–O
California	6,000-7,000	SA, DBD	Twice weekly	6	12	(Varies by institution)	A, beginning Feb. 1992
Colorado	116	DBD	Both	6	12		
Connecticut	315	DBD	Twice weekly	6	12	✓	A
Delaware	70	SA	Daily	12	12		D
D.C.	675	SA	(Not specified)	12	12	✓	D
Florida	366	SA, DBD	Daily	*[3]	*[3]		
Georgia	848	SA	Daily	6	12	✓[4]	A–I–D–O
Hawaii (No response)							
Idaho	9	(Depends on custody level)		12	12	*[5]	A
Illinois	1,156[6]	SA, DBD	Both	6	12	✓	A
Indiana	370	SA, DBD	Daily	(Varies by institution)		(Varies)	(Varies)
Iowa	60	DBD	Both	6	12	✓	
Kansas	74	DBD	Both	9	9	✓	A–D
Kentucky	16	DBD	Daily	12	12	✓	I; as indicated by physician
Louisiana	154	(Varies by institution)		(Varies by institution)			A[7]
Maine (No response)							
Maryland (No response)							
Massachusetts	N/A	SA, DBD	Daily	6	12	✓	A
Michigan	91	SA	Daily	6	12	✓	
Minnesota	98	DBD	Twice weekly	9	12	✓	
Mississippi	162	SA	Daily	12	12	✓	A–D
Missouri	400-500	DBD	Twice weekly	6	12	(In process)	
Montana	25	SA	Daily	6	12		O
Nebraska	4	DBD	Daily	12	12		
Nevada (No response)							
New Hampshire	17	SA, DBD	Daily	6	12	✓	O (in surgery)

[1] In Arizona, indefinite treatment with INH is possible for HIV+ inmates.

[2] Arkansas also provides possible indefinite treatment with INH for HIV+ inmates.

[3] Length of INH prophylaxis provided by the Florida DOC depends on response to medication, compliance, etc.

[4] Within the Georgia DOC, a negative air pressure room is available at the Augusta Correctional/Medical institution.

[5] Idaho's facilities do not have such rooms; inmates would have to hospitalized in the community.

[6] In Illinois, all inmates with positive TB skin tests are put on INH prophylaxis, except those who refuse treatment.

[7] Ten of twelve Louisiana institutions responded to the survey; most responses vary by institution.

Table IV, continued

	No. inmates on INH prophylaxis	Medication delivery		Length of INH prophylaxis (months)		Use negative air pressure rooms	Use NIOSH particulate masks (A = Any time needed; D = Dental; I = Isolation; O = Other)
		Method (SA = Self-administered; DBD = Dose-by-dose)	Frequency	HIV- inmates	HIV+ inmates		
New Jersey	N/A	SA, DBD	Daily	6, 9	12	✓[7]	3[7]
New Mexico	59	SA, DBD	Daily	6	12	✓[8]	3[8]
New York	4,100	DBD	Twice weekly	6	12	✓	I–D
North Carolina	279	SA, DBD	Both	6	12	✓	
North Dakota	0	DBD	(Not specified)	N/A	N/A		
Ohio	N/A	SA, DBD	Both	12	12		
Oklahoma	N/A	(Depends on custody level)		6	6		A–D–O
Oregon	152	DBD	Daily	12	12		I
Pennsylvania	462	DBD	Daily	6	12	varies	A
Rhode Island	92	DBD	Daily	12	12	✓[9]	I–D[9]
South Carolina	approx. 300	DBD	Twice weekly	6	12	✓	
South Dakota	20	DBD	Daily	12	12		
Tennessee	(Unknown)	SA, DBD	Daily	6	12		A
Texas	2,609	DBD	Twice weekly	6	12	✓	O[10]
Utah	3	SA	Daily	12	12		
Vermont	0	N/A	N/A	N/A	N/A		
Virginia	258	SA, DBD	Daily	6	12	✓	
Washington	N/A	DBD	Twice weekly	6	12	✓	
West Virginia	13	DBD	Daily	12	12		
Wisconsin	148	SA	Daily	6	12	✓	A–D
Wyoming	0	N/A	N/A	6	6		
Bureau of Prisons	805	SA, DBD	Both	N/A	N/A	✓	
Puerto Rico	152	DBD	Daily	6	6	✓	
Canada	(Unknown)	(Varies by institution)		(Depends on physician's order)		✓[11]	

[7] New Jersey uses air pressure rooms and NIOSH particulate masks at the St. Francis Medical Center.

[8] In New Mexico, inmates with TB are usually admitted to community hospitals for respiratory isolation.

[9] Rhode Island inmates are isolated; type of ventilation unknown. Regular particulate masks for airborne particles are worn.

[10] In the Texas DOC, NIOSH particulate masks are used by respiratory therapists for HIV-positive patients who are unable to use the aerosol treatment chamber.

[11] One of twenty-eight major Canadian institutions with formal health facilities has such a room.